

I claim:

1. A form for creating cavities within concrete structures, said form comprising:
a plurality of interconnected section members, each said section member comprising a
5 mold skeleton member and a polymer-aggregate concrete panel member joined to said mold
skeleton member.
2. The form of claim 1, wherein said mold skeleton members are lightweight and flexible.
- 10 3. The form of claim 2, wherein said mold skeleton members are composed of glass fiber
reinforced resin.
4. The form of claim 1, wherein said mold skeleton members each comprises an interior
tubular wall portion, annular flanges and longitudinal flanges.
- 15 5. The form of claim 4, wherein said annular flanges and longitudinal flanges extend from
both sides of said interior tubular wall portion to define flange internal portions and flange
external portions.
- 20 6. The form of claim 5, wherein said external flange portions retain said polymer-aggregate
concrete panel member.

7. The form of claim 6, wherein said external flange portions each comprise a peripheral edge and said polymer-aggregate concrete panel member comprises a form surface, wherein said peripheral edges define said form surface.

5 8. The form of claim 4, further comprising mechanical fasteners joining said internal flange portions of adjacent section members.

9. The form of claim 4, further comprising spacer members disposed between adjacent annular flanges and between adjacent longitudinal flanges.

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10. The form of claim 9, wherein each said spacer member comprises a spacer peripheral edge, wherein each said annular flange and each said longitudinal flange comprises a peripheral edge, and wherein said spacer peripheral edges extend beyond said peripheral edges of said annular and longitudinal flanges.

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11. The form of claim 10, wherein each said polymer-aggregate concrete panel member comprises a form surface, and wherein said spacer peripheral edges define said form surface

12. The form of claim 1, wherein said interconnected section members define an access bore,
20 and further comprising pressurizing means to pressurize said access bore.

13. The form of claim 12, further comprising pneumatic sealing means to seal said access bore.

14. The form of claim 1, further comprising an external glaze layer applied to said polymer-
5 aggregate concrete panel member.

15. The form of claim 1, wherein said polymer-aggregate concrete panel member has a density of approximately 500 grams per liter.

10 16. A method of forming a cavity within a concrete structure comprising the steps of:
providing a plurality of section members each comprising a flexible mold skeleton member and a polymer-aggregate concrete panel member joined to said mold skeleton member;
joining said section members to each other to create a three-dimensional form;
pouring concrete onto said form and allowing said concrete to cure;
15 disassembling and removing said section members.

17. The method of claim 16, further comprising the steps of:
creating each of said section members by forming a mold skeleton member comprising a tubular wall portion, a pair of annular flanges and a pair of longitudinal flanges, with said
20 annular flanges and said longitudinal flanges extending to both sides of said tubular wall portion;
and

spraying polymer-aggregate concrete onto the exterior of said three-dimensional form, and planing said sprayed polymer-aggregate concrete using said annular flanges and said longitudinal flanges as planing guides to produce a smooth exterior surface on said three-dimensional form.

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18. The method of claim 17, wherein said step of joining said section members to each other is performed by providing mechanical fasteners and connecting adjacent said annular flanges and adjacent said longitudinal flanges on the interior side of said tubular wall portions with said mechanical fasteners.

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19. The method of claim 16, further comprising the steps of:
inserting spacer members between said section members; and
spraying polymer-aggregate concrete onto the exterior of said three-dimensional form, and planing said sprayed polymer-aggregate concrete using said spacer members as planing
15 guides to produce a smooth exterior surface on said three-dimensional form.

20. The method of claim 16, further comprising the step of internally pressurizing said three-dimensional form to increase its rigidity.

20 21. The method of claim 18, further comprising the step of internally pressurizing said three-dimensional form to increase its rigidity.

22. The method of claim 19, further comprising the step of internally pressurizing said three-dimensional form to increase its rigidity.